

PATENT
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This application provides for *inter alia* thermochemically modified starches. Applicants discovered a simple and surprisingly effective alternative to conventional processes for preparing thermochemically modified starches.

A check for \$90 is enclosed with this Amendment to cover the cost of five claims in excess of twenty. Although it is believed that no additional fee is required for consideration of this paper, if a fee is due, then the Assistant Commissioner is authorized to charge such fee, or credit any overpayment, to Deposit Account 50-0320.

This amendment cancels claims 1-16 and adds claims 17-41 without prejudice, admission, surrender of subject matter, or intention of creating estoppel as to equivalents. Support for the added claims is found throughout the specification, particularly in canceled claims 1-16, on which the added claims are based. Therefore, no new matter is added.

Applicants thank the Examiner for his helpful suggestions for formal amendments of the claims. As these formal amendments do not change the scope of the claims, the application of the Doctrine of Equivalents is not affected.

Claims 1-16 were rejected under 35 USC 112, second paragraph. In light of the amendments to the claims, Applicants respectfully urge reconsideration and withdrawal of the rejection. Claims 1 and 3 have been replaced by claims 17 and 21-24, which are written in accordance with conventional U.S. practice. Claim 7 has been replaced by claim 27, which replaces "obtainable by" with "obtained by." Claims 12 and 13 have been replaced by claims 32-39, which do not include "obtainable by one or more processes." Claim 9 has been replaced by claim 28, which replaces "which features a granular structure" with "which is granular." Claim 10 has been replaced by claim 20, which is written in process claim format.

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Claim 14, which has been replaced by claims 29-31, 33-35, and 37-39, was rejected under 35 USC 112, second paragraph, as allegedly claiming a broad limitation together with a narrow limitation. The Office Action (at 4) asserts that the preamble of "a food intermediate product, food, or food composition" improperly contains a broad recitation—"food"—and a narrow recitation—"food composition" and "food intermediate product." Applicants respectfully traverse the rejection because the three terms have distinct, albeit related, meanings. For example, pre-mixed ingredients of a recipe that includes the inventive starch is more appropriately called a "food intermediate product" than a "food" inasmuch as the pre-mixed ingredients are not eaten prior to cooking. And arguably, for example, a packaged food that contains the inventive starch is more appropriately called a "food composition" than a "food" inasmuch as the packaging is not eaten. Accordingly, Applicants respectfully urge reconsideration and withdrawal of the rejection.

Claims 10-13 were rejected under 35 USC 101 as claimed recitations of uses. Claim 10 has been replaced by claim 20, which is written in process form. Claims 11-13 have been replaced by claims 29-38, which are written in composition form. Applicants, therefore, submit that the new set of claims complies with conventional U.S. practice, and respectfully urge reconsideration and withdrawal of the 35 USC 101 rejections.

Claims 1-16 were rejected under 35 USC 102(b) as being anticipated by Hershenson et al., U.S. Patent No. 3,523,938 ("Hershenson"), which describes acid hydrolysis and subsequent etherification of starch. Applicants respectfully disagree because Hershenson does not teach the present application's claimed element of heating the mixture at a rate greater than about 3 K/min.

The claimed inventive process involves first contacting a starch with an acid, heating the mixture at a rate greater than about 3 K/min to a temperature of about 50-120°C, and then, if

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necessary, adjusting the pH of the mixture to about 5.5-7.5 by adding a base. The Office Action (at 5) asserts that Hershenson teaches a process for making etherfied starch plasma expanders comprising "subjecting a starch...to mild acid hydrolysis while heated," and notes that the extraction step—the step *after* etherification—involves neutralization.

Applicants respectfully submit that Hershenson does not teach the heating step of the present application's claimed process. Moreover, the duration of heating is not the same for the two processes. Hershenson's heating steps are long duration, involving multiple samplings at half-hour intervals. In contrast, the heating steps of the present application involve much shorter durations. Accordingly, it is urged that the inventive process is patentable over Hershenson.

Claims 1-16 were rejected under 35 USC 102(b) as being anticipated by Klingler et al., Starch/Stärke 49, 391-395 (1997), which describes acid hydrolysis of green-pea starch and is authored by the co-inventors of the present application. Applicants respectfully submit that this reference does not anticipate the present application because green-pea starch is specifically excluded by the proviso of claim 17.

Applicants, therefore, respectfully urge reconsideration and withdrawal of the 35 USC 102(b) rejections.

Early and favorable examination on the merits is earnestly solicited.

Respectfully submitted,

FROMMER LAWRENCE & HAUG LLP
Attorneys for Applicants

By: Mark W. Russell by Mail B
Mark W. Russell
Reg. No. 37,514
Telephone: (212) 588-0800
Facsimile: (212) 588-0500

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